Army announces greatest Army inventions for 2006

RDECOM

The commanding general of the U.S. Army Materiel Command, the U.S. Army Vice Chief of Staff and other senior Army science and technology leaders recognized the U.S. Army's "Top Ten Greatest Inventions of 2006 " in an awards ceremony June 12 at the Hyatt Crystal City, Arlington, Va.

The Army-wide awards program is dedicated to recognizing the best technology solutions for the Soldier.

Nominations for the program were submitted from across the Army laboratory community.

The Army -- from active duty divisions to the Training and Doctrine Command to the Army's vice chief of staff -- chose the 10 winning programs based upon their impact on Army capabilities (breadth of use and magnitude of improvement over existing systems), inventiveness and potential benefit outside the Army.

Like previous years, there are no differentiating categories so that a variety of inventions could be recognized.

Each of the 10 selected teams received an award; the other nominated team members received certificates of participation.

The U.S. Army Greatest Inventions Program selections

U.S. Army Research Laboratory

Blow Torch Counter Improvised Explosive Device System

The vehicle-mounted blow torch system was designed to prematurely detonate explosives at operational speeds. Detonating the charge at a safe stand-off distance causes minimal damage to vehicles and, more importantly, Soldiers. The Joint Improvised Explosive Device Defeat Office and the Rapid Equipping Force fielded several blow torch systems to deployed forces.

M1114 HMMWV Interim Fragment Kit 5

The Interim Fragment Kit 5 was fielded as an expedient ballistic improvement for the M1114 HMMWV in April 2006. A prototype door solution with fabrication and mounting instructions was provided within one week with automotive testing and safety certification following shortly after. As the M1114 Fragment Kit 5 (Objective) was not due for fielding until fall 2006, product engineering of the interim door design was quickly completed and put into CONUS production with the first door kits delivered in one month.

Constant Hawk

Constant Hawk is a surveillance capability that leverages an electro-optic payload to collect intelligence over areas of interest. This capability offers a unique combination of coverage and high spatial resolution required to detect and characterize events of interest along with their relevant tactical context. Typically, a Constant Hawk system maintains surveillance for a period of time while building a history of activity. The Constant Hawk forensic intelligence product is used to ascertain information on the enemy and identify areas that require increased surveillance by other assets.

OmniSense Unattended Ground Sensor System

OmniSense is a Measurement and Signature Intelligence (MASINT) unattended ground sensor system used for the autonomous detection and classification of personnel and vehicles, in perimeter defense or border monitoring applications.

The capability is a combat multiplier valued by commanders when deployed to reduce force protection issues related to physical monitoring of key targets and infrastructure.

U.S. Army Aviation and Missile Research, Development and Engineering Center

Integrated Robotic Explosive Detection System

Mobile and rugged to traverse difficult terrain, the Integrated Robotic Explosive Detection System incorporates an explosive trace detector onto a robotic platform, mitigating the inherent risk to Soldiers. The robot gathers the pertinent data and provides the user with a visual display of the results. Less time is required to place the sensor in a position for inspection. The robot is highly maneuverable, allowing the system operator to remain in a protected position.

High Mobility Multipurpose Wheeled Vehicle Crew Extraction D-ring

Combat locks on the up-armored HMMWV M1114 provide security for the occupants during enemy attempted forced entry during convoy operations. The addition of the Crew Extraction D-rings provide solid anchor points for the hooks of a tow strap, chain or cable. This allows a rescue vehicle to be used to pull damaged doors open and provides safe egress from the HMMWV.

U.S. Army Armament Research, Development and Engineering Center

Plastic Shaped Charge Assembly for Remote Destruction of Buried IEDs

The Plastic Shaped Charge Assembly is a hand-packed shaped charge loaded by the user in the field. Remotely emplaced, the PSCA destroys known or suspected unexploded ordnance with much higher precision than similar devices currently in use for this purpose. Due to a low fragmentation plastic housing, there is virtually no collateral damage, making it ideally suited for use in urban terrain.

EM113A2 Rapid Entry Vehicle

The EM113A2 Rapid Entry Vehicle is a modified Canadian M113A2 Bulldozer Armored Personnel Carrier that is lightly armored, full-tracked and air transportable. The REV provides rapid entry, non-lethal crowd control, and rescue squad insertion capabilities into the center of scenarios requiring non-lethal intervention. Use of the vehicle increases Soldier survivability through improved situational awareness and the ability to move and fire from within an armored vehicle.

U.S. Army Communications-Electronics Research, Development and Engineering Center

Remote Urban Monitoring System

Remote Urban Monitoring System hardware combines emerging technologies in Wireless Local Area Network technology, night vision cameras, and Unattended Ground Sensors to eliminate false alarms. Tripped sensors transmit an alarm signal to the camera module and the operator, after video and audio from multiple camera modules, confirms the UGS alarm signal. In calendar year 2006, RUMS hardware was fielded to Soldiers via the RDECOM FAST office and to the U.S. Marine Corps via the Technology Support Working Group.

U.S. Army Engineer Research and Development Center

BuckEye System

The BuckEye LIDAR/Electro-Optic sensor system collects geospatial data over a commander's area of interest. The data is then quickly available to Soldiers at every level. To address the need to get newly acquired imagery and data into the hands of operational units, the BuckEye team used creative programming to extend and combine previous technologies into integrated technical enhancements. The BuckEye system has proven invaluable for a key requirement of tactical combat operations – to better understand urban terrain.

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